



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,530	06/20/2000	Anthony Sabatino	1461	5976

28005 7590 01/23/2003
SPRINT
6391 SPRINT PARKWAY
KSOPHT0101-Z2100
OVERLAND PARK, KS 66251-2100

EXAMINER

LY, NGHI H

ART UNIT PAPER NUMBER

2682

DATE MAILED: 01/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/597,530

Applicant(s)

SABATINO, ANTHONY

Examiner

Nghi H. Ly

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 7-9, 11, 12, 15-17, 19, 20, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbefin et al (US 6,269,243) in view of Sinivaara (US 6,055,425).

Regarding claims 1, 7, 9, 15, 17 and 23, Corbefin teaches a system for providing wireless communication service to a passenger compartment of an aircraft (see fig.1), comprising in combination: an external antenna located on an exterior portion of the aircraft (see fig.1 antenna 2 and see abstract), a cabin antenna located in the passenger compartment of the aircraft (see fig.1 antenna 3 and see abstract). Corbefin does not specifically disclose a signal pathway linking the external antenna to the cabin antenna and at least a portion of the signal pathway includes at least one low-energy transmission medium. Sinivaara a signal pathway linking the external antenna to the cabin antenna and at least a portion of the signal pathway includes at least one low-energy transmission medium (see fig.2 optical interface system 25 and see column 2 lines 29-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Sinivaara into the system of

Art Unit: 2682

Corbefin in order to avoid interference with radio frequency signals between user telephones and the base transceiver station (see Sinivaara column 2 lines 34-36).

Regarding claims 2, 8 and 16, the combination of Sinivaara and Corbefin further teaches the low-energy transmission medium comprises at least one optical fiber (see Sinivaara fig.2 optical interface system 25 and see column 2 lines 29-42).

Regarding claim 3, the combination of Sinivaara and Corbefin further teaches the low-energy transmission medium is non-metallic (see Sinivaara fig.2 optical interface system 25 and see column 2 lines 29-42).

Regarding claims 11 and 19, Corbefin further teaches the step of converting the at least one low-energy outgoing signal and the step of transmitting the at least one outgoing external signal are performed at a location outside the passenger compartment (see fig.2 ER1 is located outside the passenger compartment).

Regarding claims 12, 20 and 24, Corbefin further teaches a system for providing wireless communication service to a passenger compartment of an aircraft (see Corbefin fig.1 wireless communication between passengers P and antenna 3).

3. Claims 4-6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbefin et al (US 6,269,243) in view of Sinivaara (US 6,055,425) and further in view of Powell (US 4,916,460) and Bickel et al (3,680,115).

Regarding claim 4, the combination of Sinivaara and Corbefin teaches the at least one optical fiber has a first fiber end and a second fiber end (see Sinivaara fig.2 optical interface system 25 and see column 2 lines 29-42). The combination of

Art Unit: 2682

Sinivaara and Corbefein does not specifically disclose first and second converters operable to convert RF signals to light energy and to convert light energy to RF signal, wherein the first converter is located at the first fiber end and the second converter is located at the second fiber end. Powell teaches first and second converters operable to convert RF signals to light energy and to convert light energy to RF signal, wherein the first converter is located at the first fiber end and the second converter is located at the second fiber end (see fig.2 and see column 3 lines 18-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Powell into the system of Corbefein and Sinivaara so that the network could be established at a very significantly reduced cost (see Powell column 3 lines 38-41).

The combination of Sinivaara, Corbefein and Powell does not specifically disclose the signal pathway additionally comprises: a repeater. Bickel teaches a repeater (see Bickel column 2 lines 51-56 and see fig.3 and fig.4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bickel into the system of Corbefein, Sinivaara and Powell in order to enhance the transmission signal and radio coverage.

Regarding claims 5 and 6, the combination of Sinivaara, Corbefein, Bickel and Powell further teaches the repeater includes an amplifier (see Bickel column 2 lines 55-58).

Regarding claim 13, the combination of Sinivaara, Corbefin, Bickel and Powell further teaches repeating the at least one incoming external including amplifying the at least one incoming external signal (see Bickel column 2 lines 55-58).

4. Claims 10, 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbefin et al (US 6,269,243) in view of Sinivaara (US 6,055,425) and further in view of Bickel et al (3,680,115).

Regarding claim 10, the combination of Sinivaara and Corbefin teaches a system for providing wireless communication service to a passenger compartment of an aircraft. The combination of Sinivaara and Corbefin does not specifically disclose repeating the at least one incoming external signal. Bickel teaches repeating the at least one incoming external signal (see Bickel fig.3 incoming external signal f1 and f2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bickel into the system of Corbefin and Sinivaara in order to enhance the transmission signal and radio coverage.

Regarding claim 18, the combination of Sinivaara and Corbefin teaches a system for providing wireless communication service to a passenger compartment of an aircraft. The combination of Sinivaara and Corbefin does not specifically disclose repeating the at least one outgoing external signal. Bickel further teaches repeating the at least one outgoing external signal (see Bickel fig.3 incoming external signal f1 and f2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention

Art Unit: 2682

to provide the above teaching of Bickel into the system of Corbfin and Sinivaara in order to enhance the transmission signal and radio coverage.

Regarding claim 21, the combination of Sinivaara, Corbfin and Bickel further teaches repeating the at least one outgoing external signal includes amplifying the at least one outgoing external signal (see Bickel column 2 lines 55-58).

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corbfin et al (US 6,269,243) in view of Sinivaara (US 6,055,425) and Powell (US 4,916,460) and further in view of Mashida (JP408167786A) and Hodge et al (5,029,958).

Regarding claim 14, the combination of Sinivaara, Corbfin and Powell teaches the steps of repeating and converting the at least one incoming external signal are performed in the aircraft. The combination of Sinivaara, Corbfin and Powell does not specifically disclose the step of repeating is performed in an electromagnetically isolated portion. Mashida teaches the step of repeating is performed in an electromagnetically isolated portion (see Mashida, Purpose). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Mashida into the system of Corbfin, Powell and Sinivaara in order to protect the repeater from electromagnetic effect (see Mashida's Purpose).

The combination of Sinivaara, Corbfin, Powell and Mashida does not specifically disclose the step of converting the at least one incoming external signal are performed in an electromagnetically isolated portion. Hodge teaches the step of converting the at least one incoming external signal are performed in an

Art Unit: 2682

electromagnetically isolated portion (see column 8 lines 37-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Hodge into the system of Corbfin, Powell, Sinivaara and Mashida in order to shield the converter from electromagnetic leakage (see Hodge column 8 lines 37-40).

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corbfin et al (US 6,269,243) in view of Sinivaara (US 6,055,425) and Bickel et al (3,680,115) and further in view of Mashida (JP408167786A) and Hodge et al (5,029,958).

Regarding claim 22, the combination of Sinivaara, Corbfin and Bickel teaches the steps of repeating and converting the at least one incoming external signal are performed in the aircraft. The combination of Sinivaara, Corbfin and Bickel does not specifically disclose the step of repeating is performed in an electromagnetically isolated portion. Mashida teaches the step of repeating is performed in an electromagnetically isolated portion (see Mashida, Purpose). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Mashida into the system of Corbfin, Bickel and Sinivaara in order to protect the repeater from electromagnetic effect (see Mashida's Purpose).

The combination of Sinivaara, Corbfin, Bickel and Mashida does not specifically disclose the step of converting the at least one incoming external signal are performed in an electromagnetically isolated portion. Hodge teaches the step of converting the at least one incoming external signal are performed in an electromagnetically isolated

Art Unit: 2682

portion (see column 8 lines 37-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Hodge into the system of Corbefin, Bickel, Sinivaara and Mashida in order to shield the converter from electromagnetic leakage (see Hodge column 8 lines 37-40).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to application's disclosure.

a. Lai (US 6,285,878) teaches broadband wireless communication systems provide by commercial airline.

b. Horrer (US 6,321,084) teaches method for setting up a telecommunication link to personal in closed facilities, such a passenger transport means, as well as a telecommunication system and network.

c. Kojima (US 6,272,344) teaches position registration method for mobile communication system.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (703) 605-5164. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (703) 308-6739. The fax phone numbers

Art Unit: 2682

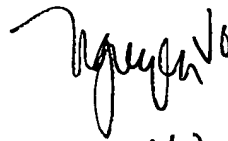
for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Nghi H. Ly



January 20, 2003



1/20/03

NGUYEN T. VO
PRIMARY EXAMINER